

REMARKS

Applicants have amended claims 9 and 35. No new matter has been added to the application by virtue of the present amendment.

Therefore, claims 9-12, 16 and 33-42 are pending in the subject application by virtue of the present amendment. It is respectfully requested that the pending claims 9-12, 16 and 33-42 be considered and passed to issuance.

Claim Rejections - 35 U.S.C. 112, second paragraph

The Examiner rejected claim 35 under 35 U.S.C. 112, second paragraph.

Applicants have made an appropriate correction to claim 35.

Therefore, Applicants believe the rejection to claim 35 under 35 U.S.C. 112, second paragraph has been overcome.

Claim Rejections

The Examiner has rejected claims 9-12, 16, 33, 34 and 36-42 under 35 U.S.C. 103(a) as being unpatentable over Sarraf (USP 5,558,720) taken in view of Galliard (USP 4,606,296); claims 9-12, 16 and 33-42 under 35 U.S.C. 102(b) as anticipated by, or, in the alternative, under 35 U.S.C. 103(a) as obvious over Tom (USP 5,704,965); and, claims 9-12, 16 and 33-38 under 35 U.S.C. 102(e) as anticipated by, or, in the alternative, under 35 U.S.C. 103(a) as obvious over Wang (USP 6,453,924).

Applicants have amended claim 9 and all remaining claims are dependent upon claim 9,

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as amended. Applicants have amended claim 9 to more clearly distinguish Applicants' invention over the prior art cited by the Examiner. Support for Applicants' amendment can be found, for example, with reference to FIGS. 1-2 and paragraphs [0020], [0023], [0024] and [0027]. Applicants respectfully submit that the prior art cited by the Examiner, individually or in combination as indicated by the Examiner, do not anticipate, teach or suggest Applicants' claim 9, as amended, or claims dependent thereupon.

Sarraf taken in view of Galliard fail to at least disclose, teach or suggest Applicants' claim 9 limitation of "... the impurity cell is **not coupled to a heat source** so as to provide the impurity by desorption due to low pressure in the deposition chamber ..." (emphasis added). Both Sarraf (see column 2, lines 27-59) and Galliard require a heat source directly coupled to an impurity cell in order to vaporize liquid which is in the impurity cell.

Tom fails to at least disclose, teach or suggest Applicants' claim 9 limitation of "... a low pressure deposition chamber; **a substrate arranged within the deposition chamber**, the substrate comprising **an impurity incorporated in a thin film formed in the deposition chamber**; **an impurity cell located entirely within the deposition chamber** ...". In other words, Tom fails to disclose a substrate and an impurity cell within the same deposition chamber. Tom discloses adsorbing fluid into a carbonaceous solid physical sorbent for storage and dispensing of fluid reagents and process gases. The storage and delivery system of Tom is embodied in a standard gas cylinder which is located outside of a deposition chamber (see column 12, lines 58 - 67), not within a deposition chamber as claimed by Applicants. Tom also fails to disclose that the thin film containing the impurity from the impurity cell that is formed on the substrate is done so within the same deposition chamber that the substrate and impurity cell are located within. According to the Examiner's comments on the Tom reference, the Examiner characterizes the gas cylinder of Tom as a "deposition chamber". Applicants respectfully submit that the Examiner's characterization of the gas cylinder of Tom as a "deposition chamber" is not

valid in view of claim 9, as amended, since this would require a substrate upon which a thin film is formed must be arranged within the gas cylinder of Tom. Tom fails to disclose, teach or suggest providing a substrate within a gas cylinder.

Wang fails to at least disclose, teach or suggest Applicants' claim 9 limitation of "... a low pressure deposition chamber; **a substrate arranged within the deposition chamber**, the substrate comprising **an impurity incorporated in a thin film formed in the deposition chamber**; **an impurity cell located entirely within the deposition chamber** and the impurity cell is not coupled to a heat source so as to **provide the impurity by desorption due to low pressure in the deposition chamber**, ...". As discussed herein above with respect to Tom, Wang also fails to disclose a substrate and impurity cell arranged within the same low pressure deposition chamber, the thin film is formed by that same low pressure deposition chamber, and an impurity is provided from an impurity cell by desorption due to low pressure in the same deposition chamber. Rather, Wang discloses gas cylinders that are external to a semiconductor manufacturing tool (i.e. "three-chamber tool 86, 130") which processes substrates within the chambers. The gas cylinders are coupled to the chambers by gas lines which provide gases from external to the chambers to inside the chambers for processing. Thus, Wang is silent on a gas cylinder located within a chamber of tool 86, 130.

Therefore, Applicants believe that the rejection of the claims under 35 U.S.C. 102 and 103 have been overcome.

CONCLUSION

Prompt and favorable examination on the merits is respectfully requested. Applicants respectfully submit that the entire application is in condition for allowance. However, the Examiner is urged to call the undersigned at the number listed below if, in the Examiner's opinion, such a phone conference would aid in furthering the prosecution of this application. No fee is due by virtue of this amendment. However, if the PTO determines that a fee is required, please charge Applicants' Deposit Account, 09-0456.

Respectfully Submitted,

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